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Importance of the treatment of patients with lip and palate cleft, especially during the COVID-19 pandemic

Short running title: Treating palate cleft and lip in the pandemic

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Dear Editor,

Patients with cleft lip and palate have important trouble in breastfeeding due to the difficulty of performing suction properly. Within this context, the development of the newborn is usually compromised due to low weight gain.^{1, 2} The treatment of patients with cleft lip and palate is surgery, which commonly occurs in the sixth month of life.³

The incidence of cleft lip and palate cleft may vary with ethnicity, race, geographic origin, and socioeconomic status. At the beginning of twenty century, the World Health Organization (WHO) estimated an oral cleft incidence of 1 per 700 live births each year internationally. This incidence is approximately 1 per 800 live births in the United States, which is low in contrast to 1 per 500 live births in developing countries. The abnormal formation is a result of genetic and environmental factors. Maternal deficiency in folic acid

and exposure to certain medications, nicotine, use of drugs, and alcohol may also lead to the development of congenital orofacial defects in infants.²

During the waiting period until the surgery, the NAM (NASOALVEOLAR MOLDING) device is essential for facilitating suction, decreasing nasal return and, especially improving the quality of nutrition for newborns.^{1,2} Another benefit of NAM is the temporary plasticity of nasal cartilage in the neonatal period. This is probably due to high levels of maternal estrogen in the fetal circulation that triggers an increase in hyaluronic acid.⁴ The combination of nasal and alveolar presurgical infant orthopedic molding (nasopalveolar molding) has resulted in long-term benefits to these patients and in medical economics.⁵⁻⁹ Moreover, the use of NAM represents benefits of traditional intraoral presurgical orthopedics such as growth guidance, development of palatal segments, minimization of treatment at a later age, and normalization of tongue position, resulting in better speech and positive psychological effect on the parents.¹⁰

NAM is a device recommended for patients with cleft lip and palate up to 1 month of age. It is a non-surgical method of remodeling the gingiva (alveolar ridge), lips, and nostrils before primary surgery. Then the newborn returned at sixty months to undergo primary surgery. The service provided at University Federal of Minas Gerais (UFMG) has as a protocol the treatment with NAM begins at 2 weeks of life with monitoring of a multidisciplinary team for all family.

The current COVID-19 pandemic, caused by SARS-CoV-2, has impacted the early treatment of patients with lip and palate cleft. The treatment of patients with cleft lip and palate remains a priority since it influences the survival of these patients. Despite the pandemic, this treatment is indispensable for each patient and includes personalized treatment plans. The care of patients with lip and palate cleft cannot be interrupted, even in times of pandemic. Thus, phone prescreening is recommended, which may reveal symptoms possibly associated with COVID-19 and justify postponing in-person consultation. If such consultation is deemed safe, then general safety measures need to include assessing the patient's body temperature, practicing frequent hand hygiene, disinfecting equipment and clinical surfaces, and using personal protective equipment consisting of masks (i.e., N95 or FFP2), disposable medical aprons, gloves, glasses, and

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face shields.¹¹⁻¹³ In oral care before, during, and after treatment, droplet- and aerosol-generating procedures should be avoided. ^{11,13}

The patients with this morbidity must undergo early treatment to improve nutrition, development, and mainly, their quality of life. Above all, in times of pandemic, as this moment, the immune system must be in balance for the physical and mental health, reducing the risk of infection, and the chance of needing hospitalization. Therefore, the maintenance of dental treatment for patients with cleft lip and palate is essential, and it is important to follow the determinations of biosafety guidelines for the prevention of COVID-19 especially in this vulnerable group of patients.^{12,13}

Key words: Coronavirus infections, cleft lip, pediatric dentistry.

No conflict of interest

REFERENCES

1. Redford-Badwal DA, Mabry K, Frassinelli JD. Impact of cleft lip and/or palate on nutritional health and oral-motor development. *Dental Clinics of North America*. 2003;47(2):305-317.
2. Burca NDL, Gephart SM, Miller C, Cote C, Zukowsky K. Promoting Breast Milk Nutrition in Infants with Cleft Lip and/or Palate. *Advances in Neonatal Care*. 2016;16(5):337-344.
3. Hospital de reabilitação de Anomalias Craniofaciais da Universidade de São Paulo (HRAC-USP). Etapas e condutas terapêuticas- Fissuras Labiopalatinas, Anomalias Craniofaciais, Saúde Auditiva, Síndromes. 7th ed. 2018:7.
4. Matsuo KMD, Hirose TMD, Tomono TMD, et al. Nonsurgical Correction of Congenital Auricular Deformities in the Early Neonate. *Plastic and Reconstructive Surgery*. 1984;73(1):38-50.
5. Cutting C, Grayson B, Brecht L, Santiago P, Wood R, Kwon S. Presurgical columellar elongation and primary retrograde nasal reconstruction in one stage bilateral cleft lip and nose repair. *Plastic and Reconstructive Surgery*. 1998;101(3):630-639.
6. Santiago PE, Grayson BH, Gianoutsos MP, Brecht LE, Kwon SM. Reduced need for alveolar bone grafting by pre-surgical orthopedics and primary gingivoperiosteoplasty. *Cleft Palate Craniofacial Journal*. 1998;35 (1):77-80.
7. Maull DJ, Grayson BH, Cutting CB, et al. Long-term effects of nasoalveolar molding on three-dimensional nasal shape in unilateral clefts. *Cleft Palate Craniofacial Journal*. 1999;36(5):391-397.
8. Pfeifer TM, Grayson BH, Cutting CB. Nasoalveolar Molding and Gingivoperiosteoplasty versus Alveolar Bone Graft: An Outcome Analysis of Costs in the

Treatment of Unilateral Cleft Alveolus. In: 55th Annual Meeting of the American- Cleft Palate Craniofacial Association; April, 1998; Baltimore, MD.

9. Grayson BH, Cutting CB. Presurgical Nasoalveolar Orthopedic Molding in Primary Correction of the Nose, Lip, and Alveolus of Infants Born With Unilateral and Bilateral Clefts. *Cleft Palate Craniofacial Journal*. 2001;38(3):193-198.
10. Defne K, Ayhan E. Effects of Nasoalveolar Molding Therapy on Nasal and Alveolar Morphology in Unilateral Cleft Lip and Palate. *The Journal of Craniofacial Surgery*. 2009;20(6):2075-2080.
11. Fini MB. What dentists need to know about COVID-19. *Oral Oncology*.2020;105:104741. <https://doi.org/10.1016/j.oraloncology.2020.104741>.
12. The French Society of Stomatology, Maxillo-Facial Surgery and Oral Surgery (SFSCMFCO). Practitioners specialized in oral health and coronavirus disease 2019: Professional guidelines from the French society of stomatology, maxillofacial surgery and oral surgery, to form a common front against the infectious risk. *Journal of Stomatology, Oral and Maxillofacial Surgery*. 2020; 121(2):155-158. <https://doi.org/10.1016/j.jormas.2020.03.011>.
13. Rocha BA, Mendes PA, Lima LMC, et al. Why it is crucial to maintain oral care for patients undergoing head and neck radiotherapy during the COVID-19 pandemic. *Journal of Stomatology, Oral and Maxillofacial Surgery*. 2020;7(20):2468-7855.